

Directions: Make sure to show all your work. You may check your work with a calculator. Do your best.

2.1-2.3 Solving Equations

Solve the following equations. Show your work and check your answer.

1. $8 = a - 2$ _____ 2. $x + 7 = 11$ _____ 3. $2 - r = -6$ _____

4. $-1 = n + 5$ _____ 5. $-3p = -48$ _____ 6. $-98 = 7t$ _____

7. $-4.4 = -4y$ _____ 8. $16 = \frac{w}{8}$ _____ 9. $\frac{h}{10} = \frac{-22}{5}$ _____

10. $7n + 12 = -23$ _____ 11. $13 = 8 - 5d$ _____ 12. $-19 + \frac{c}{3} = 8$ _____

13. $\frac{k}{4} + 6 = -2$ _____ 14. $-18 - 11r = 26$ _____ 15. $5n - 16 - 8n = -10$ _____

16. $6v - \frac{5}{8} = \frac{7}{8}$ _____ 17. $42 = 3(2 - 3h)$ _____

2.4 Solving Equations with Variables on Both Sides

- A) Remember to combine like-terms on each side first (if possible). Then eliminate the variable on one side of the equation.
- B) If the equation has ()'s, make sure to distribute first.

Solve the following equations. Show your work and check your answer.

18. $3n + 2 = -2n - 8$ _____

19. $8b - 7 = 7b - 2$ _____

20. $-12 + 5k = 15 - 4k$ _____

21. $7(h + 3) = 6(h - 3)$ _____

22. $-(5a + 6) = 2(3a + 8)$ _____

23. $3w - 6 + 2w = -2 + w$ _____

2.5 Solving Literal Equations

- C) For literal equations or formulas, treat other variables like numbers. Undo the operations using inverse operations to get the indicated variable by itself.

*Solve each equation for **m**. Then find the value of **m** given a value for **n**.*

24. $m + 3n = 7$ $n = -2$

25. $3m - 9n = 24$ $n = 1$

Solve each equation for x .

24. $fx - g = h$

25. $5x - 2y = 10$

26. $3x + 4y = 12$

27. Michael ordered t-shirts off of Amazon.com. He pays a total of \$60 for 5 t-shirts, INCLUDING \$8.65 for shipping and handling. Write the equation to represent the cost of this situation AND figure out the cost of 1 t-shirt.

Equations: _____ Cost: _____

2.6 Ratios, Rates, and Conversions (refer to p. 814 for Conversion Table)

Convert the given amount to the given unit by using the correct conversion factor (ratio).

Example: 42 in.; cm Since 1 in = 2.54 cm, take $\frac{42\text{in.}}{1} \cdot \frac{2.54\text{cm}}{1\text{in}} = 106.68\text{ cm}$. Units on the top cancel with same units on the bottom (or vice versa, units on bottom with same top units).

28. 12 hours; min _____
(use 1 hr = 60 min)

29. 1000 cm; m _____
(use 1 m = 100 cm)

30. 45 ft; yd _____
(use 1 yd = 3 ft)

31. 15 lb; kg _____
(use 1 kg = 2.2 lb)

32. 10 mi; ft _____
(use 1 mi = 5280 ft)

33. 25 ft; cm _____
(use 1 ft = 12 in and 1 in = 2.54 cm)

34. Mr. Hintz purchased 12 gallons of drinking water for his family for \$14.28. He knows that this should last for 2 weeks. What is the average cost per day for drinking water for the family?

35. Car 1 drove 408 miles in 6 hours and Car 2 drove 365 miles in 5 hours during the cross-country road race. Who had the fastest average speed?

2.7 Proportions

- ✓ Remember proportions are just equal ratios: $\frac{a}{b} = \frac{c}{d}$. To solve, use cross products so that $ad = bc$.
- ✓ For proportions with more than one term, remember to distribute: **Example:** $\frac{2x+1}{3} = \frac{1}{5} \rightarrow 5(2x+1) = 3(1)$

Solve the following proportions by using cross products.

36. $\frac{3}{5} = \frac{b}{8}$ _____ 37. $\frac{12}{m} = \frac{8}{3}$ _____ 38. $\frac{x-3}{-2} = \frac{4}{5}$ _____

39. If 3 pizzas serve 12 people, how many pizzas are needed for a pizza party with 68 people?

Proportion: _____

2.9 – 2.10 Percents and Percent of Change

- ✓ For percents, the proportion is $\frac{p}{100} = \frac{\text{part}}{\text{base}}$. To find percent of change: $\frac{\text{new} - \text{old}}{\text{old}} = \frac{\% \text{ of change}}{100}$

Find each *percent*, *part*, or *base*.

40. What percent of 48 is 36? _____ 41. 15% of what number is 8.4? _____

42. What is 12.5% of 136? _____

43. You deposit \$100 into a savings account that earns simple interest at a rate of 1.5% per year. How much will you have earned after 18 years?

Find each percent of change. Describe each as a percent of increase or decrease. Round to the nearest percent.

44. \$4.50 to \$5.00 45. 142 lb to 130 lb

46. You want to buy a new iPhone that costs \$199 with 7% **sales tax**. Find the total price. _____

47. The iPhone is **discounted** 25% off. How much is the new price (before tax)? _____

Reflection Sheet

This is to remind yourself of your efforts on homework. Did you make corrections on problems with which you had difficulty? Please fill in the table below. 😊

Section	Topic	Page(s)	Assignment	Corrections made? Yes/No
1.7	Review of Distribution & Combine Like variables		2 Worksheets	
2.1	One Step Equations	85-87	#'s 10 – 50 evens, 64 – 70 evens, 80	
2.2	Two Step Equations	91-93	#'s 12 – 32 evens, 38 – 42 evens, 66	
Review	2.1-2.2		2.1-2.2 Review Worksheet	
2.3	Multi Step Equations	98-100	#'s 10 – 26 evens, 65, 69-71	
2.3	Multi Step Equations	98-100	#'s 30-50 evens, 56-58, 75-80	
Review	2.1-2.3		2.1-2.3 Review Worksheet	
	Quiz Corrections			
2.4	Equations with Variable on Both Sides	105-108	#'s 14 – 36 evens, 58	
2.4	Equations with Variable on Both Sides		2.4 Worksheet	
2.5	Literal Equations		2.5 Worksheet (half of the problems)	
Review	2.4-2.5		Worksheet 2.4-2.5 (half of the problems)	
2.6	Ratios, Rates, Conversions	119-121	#'s 10 – 32 evens, 46	
2.7	Proportions	127-129	#'s 18 – 44 evens, 60, 62	
2.9	Percents	141-143	#'s 10 – 36 evens, 54, 56	
2.10	Percent of Change	148-150	#'s 8 – 16 evens, 26, 42, 44	
Review	Chapter 2		Review Packet	
Review	Chapter 2		Target Review	

There were 19 homework assignments for this chapter. How many did you COMPLETE on time? ____/19 assignments

How many times did you get help outside of class (Resource center, me, website, etc.)? ____ Times

How often did you participate during class (*Circle one*)? Almost Every day/Every Few days/ A couple times/Never

What grade do you think you will get on the Chapter 2 Retest (*Give as a %*)? Why?